Descriptive Account

OF A

NEW METHOD

OF TREATING

OLD ULCERS

Of the Legs.

By THOMAS BAYNTON,

SURGEON, of BRISTOL.

BRISTOL: PRINTED BY N. BIGGS,

AND SOLD BY MESSRS. ROBINSONS, PATERNOSTER-ROW,

LONDON.—THE BOOKSELLERS IN BRISTOL,

BATH, &c. —— PRICE 2s. 6d.

1797.

1560 | 856.



To DOCTOR *A.* FOTHERGILL, *F.R.S.*

Member of the Royal College of Physicians, and of the Medical Societies of London, Edinburgh, and Paris; and Honorary Member of the American Philosophical Society.

DEAR SIR,

If I were to neglect the only publick opportunity that may ever be allowed me to testify my gratitude, for the preservation of the valuable life of my nearest Relation, I should become inexcusable to myself; therefore I take the liberty of addressing to YOU, *who have so often by your Writings distinguished yourself as the friend of the human race, a few Sheets, that have been written for the benefit of those unfortunate persons, who may labour under the disease therein described.*

I am, Sir,
Your much obliged Friend,
and very sincere Servant,

THOMAS BAYNTON.

NEW METHOD

OF

TREATING ULCERS.

THE common methods of curing old ulcers are ſo tedious, troubleſome, and uncertain, and they ſo often become dangerous in their conſequences, that I think it will be admitted, that, any attempts calculated to leſſen the ſufferings of the Patient, and the trouble of the Surgeon, will be entitled to attention; as it is known by all practitioners of experience, that very few of

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thoſe maladies which compoſe the catalogue of human miſery, occaſion in many inſtances more perplexity to the one, or diſtreſs to the other, than *this diſeaſe*.

A ſimilar reflection may have occaſioned ſome of the numerous publications on this ſubject, within the laſt fifteen or twenty years; indeed, it will be perceived by the writings of Wiſeman, Elſe, Bell, Underwood, and other Surgeons of eminence, that the diſeaſe has been conſidered ſo well worthy *their attention*, as ſucceſſively to employ *their* pens.

Had not Wiſeman's ſucceſs with the laced ſtocking been made public, *it is poſſible* that Surgeons might, in the preſent day, have

been unacquainted with the advantages derived from ſupporting the returning veſſels; and it is probable, that the diſeaſe under conſideration, might, even at this time, have been leſs within the controul of art, than it is ſuppoſed to be; as the principal merit of the work of every man, who has written upon the ſubject ſince his day, will be found to conſiſt in thoſe directions, that enforce the neceſſity of ſupporting the parts by bandage.

I have ſaid that the common methods of cure are tedious, troubleſome, and uncertain; it will alſo be found, that thoſe people are moſt liable to ſuch diſeaſes, who are leaſt able to attain, or ſubmit, to the means of

cure. If a man in affluence, or in circumſtances that enable him to pay for advice and aſſiſtance, meets with ſuch an accident, he by reſt and proper care, obtains a cure :— If a labouring poor man experiences ſuch a misfortune, which it muſt be allowed he is very liable to, he is obliged to purſue his occupation, for ſupport, as ſtarving is a greater evil than even *a continual ulcer*; thus, a complaint, that might have been cured, becomes every day worſe, and at laſt often ends in what *has been deemed* an incurable diſeaſe.

The means I have to propoſe will in moſt inſtances be found ſufficient to accompliſh cures for the *worſt caſes* without pain, or confinement.

confinement. And thus the poor man, who is now by the circumſtances of his ſituation almoſt deprived of a rational hope, may in future be enabled to procure his family ſuſtenance, whilſt he purſues the means that are calculated to reſtore him to health. Theſe advantages, with many others, ſo obvious as not to need publication, when the whole ſtock of healthful ability that a country contains may be put in requiſition by its wants,(a) have induced me, and not the vanity of authorſhip, to make known what I think the

(a) It is expected that many brave ſeamen and ſoldiers will be reſtored to their country by theſe means, that otherwiſe would have continued uſeleſs to themſelves, and to the community.

the experience of all will prove to be a material improvement in the art of Surgery. And when it is conſidered that our acquaintance with *nature* is every day increaſing, it will not be arrogant to ſuppoſe that thoſe who write laſt upon ſubjects connected with *it*, may, without being poſſeſſed of any uncommon ſhare of ſagacity, make diſcoveries that eſcaped the penetration of thoſe who had written upon the ſame ſubjects with fewer data.

Improvements in the *healing art*, muſt, like all thoſe ſciences that depend upon a knowledge of the *laws* of nature, be neceſſarily ſlow; and perhaps, can only be advanced by a faithful record of facts, the liberal interchange

change of ideas between thoſe who practiſe *it*, and a candid ſubmiſſion to the teſt of general experience, of thoſe *new remedies* that have ſucceeded, where others had failed, to produce the deſired effects: ſuch an aſſertion, in the preſent day, will not I hope be ſuppoſed to favour empyriciſm, as that only can acquire currency which will bear the aſſay of reaſon.

About the commencement of the year 1792, after having experienced repeated diſappointments in my endeavours to obtain permanent cures for ſome patients, with whom I had taken more than common pains, and for whom I had tried reſt in a horizontal

horizontal poſture, [a] exerciſe, precipitate,[b] bandages,[c] and every other remedy I was acquainted with, that authors had recommended, both alone, and conjoined with the moſt approved internal medicines: *I determined on endeavouring to bring the edges of thoſe ulcers, that might in future be placed under my care, nearer together, by means of ſlips of adheſive plaiſter*; having frequently had occaſion to obſerve, that the probability of an ulcer continuing ſound depended much on the ſize of the cicatrix that

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(*a*) See Bell's Treatiſe on Ulcers. (*b*) Underwood's Treatiſe on Ulcers of the Legs. (*c*) Elſe's Method of treating ſore Legs.

that remained after the cure appeared to be accompliſhed: and well knowing that the natural ſhield of the part, the true ſkin, was a much more ſubſtantial ſupport and defence, as well as a better covering, than that frail one, that is obtained by the aſſiſtance of art (a) in the common methods of cure.——At that time I had in view to leſſen the probability of thoſe ulcers breaking out again, that might be healed

(a) "Thus all the mild ſtyptic powders and waſhes, by contracting or corrugating the extremities of ſuch veſſels as have been divided, and by producing an exſiccation of that inorganic cellular ſubſtance in which theſe are inveloped, tend to induce over the ſurface of ſores that delicate thin covering termed cicatrix."

Mr. Benj. Bell's Treatiſe on Ulcers. p. 181.

healed by the means I propoſed to make trial of, as well as an expectation of being able, if the application could be borne by my patients, to gain ſome time in the cure.

Little did I think that a method ſo ſimple as the mere application of a ſlip of adheſive plaiſter, *in a particular way*, would prove the eaſieſt, moſt efficacious, and moſt agreeable of all applications, to a wound ſo proverbially irritable as an ulcer; much leſs could I expect that it would lead me to the diſcovery of a method of curing with eaſe, thoſe diſeaſes that had ſo long exerciſed my patience, and defied my induſtry: It had never in that ſpecies of ſore, I believe, been tried, therefore it is no wonder, though every ſurgeon

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muſt acknowledge his obligations to it in recent wounds, that I then adopted it as a very doubtful remedy.(a) Opportunities to try it were not long wanting, and although the caſes that firſt preſented were of an unfavourable deſcription, I had the pleaſure to perceive that it occaſioned very little pain in the application, ſat eaſily upon the wounds, gave my patients great ſatisfaction, and in every inſtance

(a) "The particular practice of procuring adheſion belongs to no one perſon, but was paſſing continually from hand to hand, from one friend to another, the common doctrine and diſcourſe of the day. It was gradually extending in its application, and growing ſtrong, like every practical doctrine, by ſlow degrees. It was applied firſt to amputation; then to trepan; then to the extirpation of cancerous mammæ; then to all great operations; then to all recent wounds."

Mr. John Bell's firſt Diſcourſe on Wounds.

inſtance materially accelerated the cure. I had alſo the pleaſure to obſerve that the chief purpoſe of its application was obtained, namely, that the ſize of the cicatrices were much leſs than they would have been, had the cures been obtained by any of the common methods.

My ſucceſs, however, was not quite perfect, as I was not able in many inſtances, to remove the ſlips of plaiſter, without removing ſome portion of the adjacent ſkin, which by occaſioning a new, though very trifling wound, proved a diſagreeable circumſtance in a part ſo diſpoſed to inflame and ulcerate, as the vicinity of an old ſore, in a ſituation ſo far removed from the ſource of circulation,

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as one of the lower extremities. I therefore endeavoured to obviate that inconvenience, in the caſes that next preſented, by keeping the plaiſters and bandages well moiſtened with ſpring water, ſome time before they were removed from the limb. I had the ſatisfaction to obſerve that the inconvenience was not only prevented, but that every ſucceeding caſe juſtified the confidence I now began to place in the remedy. I diſcovered alſo, that moiſtening the bandages was attended with advantages that I did not expect; that my patients were rendered much more comfortable in their ſenſations while the parts were wet, and cool, and that the ſurrounding inflammation was ſooner removed, than I had before obſerved it to be.

The diſeaſes that had hitherto occurred, were moſtly ſmall irritable ulcers, about the ankle joint, and upon the tendons that paſs over the ſuperior parts of the foot; ſituations, that I believe would have occaſioned them to have reſiſted in a conſiderable degree, moſt, or all of the other known methods of treating ſuch diſeaſes, though they yielded ſo readily to this, as to confirm my opinion of its decided ſuperiority over every other method of cure, in the earlier inſtances of its application.

All of theſe patients were at firſt enjoined to keep the affected part as much at reſt as poſſible, but as it happened that many of them were, from the nature of their occupa-

tions,

tions, obliged to work, and ſtand a conſiderable part of the day, I ſoon diſcovered that their recovery kept equal pace with thoſe who confined themſelves to their beds; this circumſtance, ſo contradictory to my own, and the almoſt univerſal experience of Surgeons, at firſt excited a conſiderable degree of ſurprize; but if the modern theory of inflammation be juſt, is it not likely that the equal preſſure which will be applied to the mouths, and ſides of the divided exhalants by theſe means, when aſſiſted with a proper bandage, may as effectually prevent that diſproportionate flow of ſerum, and coagulating lymph, which conſtitutes the diſcharge of ulcers, as abſolute reſt in a horizontal poſture? and when it is conſidered that the health of

a wound is very frequently affected by the quantity of its diſcharge, I think it will appear probable, where it is too great, that the means propoſed may produce their good effects by preventing the diſtention of the veſſels, and in that way obſtructing the ſupply of fluids that they had been accuſtomed to receive and pour out, which it will be recollected were generally increaſed and vitiated, in proportion to the exerciſe of the part, and will now be found to be in an equal or greater degree diminiſhed and improved by the plan that is recommended; indeed ſo remarkable will the difference be found, that in many of thoſe neglected ulcers that I have met with among the poor, the diſcharges, which upon the removal of their dreſſings had fallen in a ſtream from the part, have in two or three

days, at fartheſt, been reduced to the quantity that is uſually afforded by the healthieſt ſores; the difference in the quality will be equally remarkable, as it has been in almoſt every inſtance obſerved, that thoſe ulcers which before the application of theſe means were ſo offenſive as to leave an intolerable fœtor when they were dreſſed, have in the ſame ſpace of time, or nearly as ſoon, become perfectly ſweet and inoffenſive.

It has generally happened that the diſtreſs of the ſufferers has been alſo much leſſened, and I have been told at the ſecond, and very often at the firſt dreſſing, that they had experienced more eaſe in that ſhort period, than they had known for

for many preceding months. I am now ſpeaking of thoſe perſons whom I have found in the moſt *miſerable ſituations*, and have taken under my care to put the propoſed plan to the ſevereſt trials. The ſucceſs that I have experienced has been ſo uniform, that I think I can ſafely aſſert there will in future be found but a very ſmall proportion of thoſe ulcers that are unconnected with morbid poiſons, diſeaſed bones, or conſtitutional affections, as ſyphilis, caries, ſcrophula, &c. that may not be cured in a ſhorter ſpace of time than will readily be believed, without much pain, or any confinement, if the plan be purſued with ſteadineſs and the requiſite care. Need I ſay that if it becomes as ſucceſsful with others as it has been with me, it will prove a ſource of benefit beyond calculation?

I have already remarked, that the diſcharge will be leſſened, that the offenſive ſmell will be removed, and that the pain will abate in a very ſhort time; theſe advantages, though ſo great, are not all that belong to this ſimple innovation; the callous edges will in a few days be levelled with the ſurface of the ſore, the growth of fungus will be prevented, and conſequently the neceſſity for painful eſcharotics be much leſſened, if not entirely done away, the condition of the ulcer, however large, will be ſo much bettered as to annihilate thoſe conſtitutional effects, that in *large ulcers* often occaſion an increaſe of miſery, and ſometimes end in death.

The progreſſion of the cure will, I believe, be uniform; and thoſe who adopt the plan,

will not again find the labour of months deſtroyed, by a new action of the ſore in a few days, *as it has always happened, that the advantages gained by me in this way, have been preſerved till a cure has been obtained,* (a) and laſtly, the probability of a relapſe will be very

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(a) "Every Surgeon, who has frequented large Hoſpitals, knows and laments the difficulty of cure; for though reſt and an horizontal poſture, with any ſimple application, may effect it in any recent ſores, and good conſtitutions; yet where the ulcers are of long ſtanding, or have hard callous edges, or happen to ſuch as are in a bad habit of body, we daily ſee them reſiſt every uſual method. Sometimes preparations of mercury, ſuch as calomel, or Van Swieten's ſolution of ſublimate, have ſeemingly produced a good effect. At other times I have thought ſea-water of uſe; and have often ſeen the bark preſcribed with advantage. But I have frequently known theſe fail. It is no uncommon thing,

very greatly diminiſhed, as the remaining cicatrix, where the ulcers are ſituated in yielding parts, will be ſo ſmall (*if care be taken to endeavour to bring the retracted ſkin nearer together at each time of dreſſing,*) that there will be little riſque of its again giving way.

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after bringing an ulcer into ſuch a ſeeming diſpoſition to heal, as to flatter us with the hopes of a compleat cicatrix in a few days, to ſee it become painful, inflame, look foul, ſpread, and even gangrene; and when, by the uſe of antiſeptic fomentations and poultices, the bark and opium, the ſpreading of the ſore is ſtopped, and the ſloughs caſt off, the ulcer is probably larger than it was when we firſt began to treat it. By a continuance of theſe means, we may bring it again into a diſpoſition to heal; and probably ſee the ſame ſcene acted over again."

See the Works of the late Joſeph Elſe, F. R. S. P. 109.

Any reaſoning upon facts that are ſo well eſtabliſhed by the ſubjoined caſes may ſeem unneceſſary; it is therefore not my intention to treſpaſs on the time of thoſe who may peruſe this little tract, further than is needful to illuſtrate the principles whereon the improvements are founded, that are here deſcribed. And it will I hope appear that what is ſaid in that way will be the reſult of induction from the following incontrovertible caſes, rather than from any reaſoning a priori.

I had long known that the ſkin ſuffered much leſs in the progreſs of thoſe ulcers that were occaſioned by original violence, or that depended ſimply upon a diviſion of parts, than in many of thoſe ſpecific diſeaſes that are occaſioned by morbid poiſons; whoſe

actions are in ſome inſtances directed almoſt excluſively to the ſkin, as in ſome ſtages of ſyphilis, phagedæna, &c. and I had ſuppoſed that the enlarged diameter of ulcers was in many inſtances occaſioned as much by that ſerous ſwelling termed Oedema, which cauſes a ſeparation of the divided parts, and *a retraction of the ſkin*, or more than by any effects of the ulcerative proceſs; I alſo too frequently had obſerved the inſufficiency of *that inorganic ſubſtance* that is afforded by nature *in its ſtead*, to defend and preſerve parts that had been healed by the means generally uſed. (a)

(a) "This new cutis, and indeed all the ſubſtance which had been formerly granulations, is not nearly ſo ſtrong, nor endowed with ſuch laſting and proper actions as the originally formed parts. The living

The advantages that might be obtained by the free uſe of cold water, as an application to ſuch diſeaſes, an accidental circumſtance brought to my knowledge. I had long been ſenſible of the good effects that reſulted from the uſe of the aqua vegeto mineralis

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principle itſelf is alſo not nearly ſo active; for when an old ſore once breaks out, it continues to yield till almoſt the whole of the new formed matter has been abſorbed or mortified."

Mr. Hunter's Treatiſe on the Blood, &c.

mineralis; and had without reflection aſcribed them to thoſe ſpecific virtues that its inventor ſays it poſſeſſes,(a) whilſt I believe I had overlooked the real, or at leaſt the more probable cauſes of thoſe conſequences that have been ſo univerſally obſerved to follow its uſe.

It has been proved that a larger quantity of blood circulates through parts that *are inflamed*, than they were accuſtomed to tranſmit in a ſtate of health, that the diameter of

(a) See Goulard's Treatiſe on Lead.

of the veſſels of parts in *ſuch a ſtate* is conſiderably enlarged, and that the diſcharge of wounds and ulcers is nothing more than certain parts of the blood, ſomewhat altered in their properties by the action of the veſſels.(a) Under ſuch a view of the diſeaſe, is it not probable, that the good effects of the aqua vegeto mineralis may be better explained in the following manner, than by the unphiloſophical acknowledgement of ſpecific virtues that never have been, and I think never can be de-

(a) See page 280 of Mr. J. Hunter's "Treatiſe on the Blood, &c."

demonſtrated ?[a] It is now known that the heat of a part is greater or leſs in proportion to the quantity of arterial blood that paſſes through it; that the heat of animals is occaſioned by the abſtraction of caloric, or the

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(a) Mr. John Hunter ſays, in page 350 of his "Treatiſe on the Blood &c." that "applications which can weaken ſhould never be applied to an irritable inflammation, eſpecially if the irritability ariſes from weakneſs." He ſays, "I am certain I have ſeen lead increaſe ſuch inflammations particularly in many inflammations of the eyes and eye-lids; and I believe it is a bad application in all ſcrophulous caſes." If it be neceſſary to add more to ſuch reſpectable evidence, it may be obtained from the acknowledged natural properties of ſome of the ingredients of the Vegeto Mineral Water. It is prepared by diſſolving lead in vinegar, and then adding water to the ſolution. Its

the matter of heat, from the atmoſphere, by the *lungs* in the act of reſpiration, that it is communicated from *them* to the blood in the pulmonary *veins*, by *them* tranſmitted with the blood to the left ſide of the heart, from thence thrown into the Aorta, and by its

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Its principal ingredient is one of the moſt debilitating poiſons that ſcience has any knowledge of. The menſtruum of that ingredient, (vinegar) derives its menſtrual power from the oxygene which it abſorbs from the atmoſphere in its change from the inflammable to the acetous ſtate. Now it has been proved by the juſtly celebrated Dr. Ingenhoutz, that oxygene is unfriendly to wounds and ſores, as may be ſeen in his Letter to Dr. Beddoes, in the firſt part of his Conſiderations on " The Medicinal uſe of Factitious Airs." Water then, the remaining ingredient, appears to be the only uſeful as well as innocent article of the compoſition.

its branches conveyed to the remoteſt parts of the body.(a) It is alſo known, as hath been obſerved before, that parts in an inflamed ſtate have their veſſels diſtended, and receive more blood than parts in a ſtate of health.——From theſe conſiderations it muſt appear that the heat of parts in an inflamed ſtate muſt be greater than ſimilar parts of the ſame body in a ſtate of

(a) "We cannot therefore ſufficiently admire the infinite wiſdom of the ſupreme Being, who has made heat be generated in the lungs from that very element which draws off heat from every other part of the body.—We cannot alſo but admire the diffuſion of heat through the entire ſyſtem by means of the blood."

See a diſſertation on reſpiration tranſlated from the Latin of Dr. Menzies.

of health. Is it not probable then that the good effects of the aqua vegeto mineralis have reſulted either from the abſtraction of the increaſed heat of the part, by means of its cooler temperature, or that by the ſenſation of cold, which ſuch applications convey to the parts inflamed, a contraction of the veſſels may have been occaſioned,(a) and a ſupply of that moſt ſtimulating material heat diminiſhed; as well as the

(a) "Cold produces the action of contraction in the veſſels. Its action on an inflamed part may be ſimilar to its action on a frozen part by reſtraining action, and keeping it within the ſtrength of the part in the one caſe, ſo as not to allow death to take place from over action, and in the other to keep it within bounds."

Mr. Hunter's Treatiſe on the Blood, &c.

the undue flux of thoſe parts of the blood that conſtitute the diſcharges of ulcers? Or may it not produce its good effects in each or all of thoſe ways? It has been aſtoniſhingly uſeful in ſome ulcers that afforded acrid diſcharges, I believe, by ſimply diluting, and in that way diminiſhing the corroſive quality of ſuch diſcharges.

If the foregoing reaſoning be conſiſtent with truth, how decidedly ſuperior, as an application, muſt be pure water, to that preparation of lead that has been conſidered. I mean not to aſſert that caſes cannot occur wherein it may prove uſeful; but I deſign by relating the reſult of my experience, which in theſe caſes hath been rather

extenſive, to direct the attention of practitioners to a remedy that with me has proved, upon many comparative trials, to be more uſeful than the one that has been ſo long and ſo generally adopted; which perhaps will ſufficiently appear, if the good effects produced are referable to the abſtraction of increaſed heat, to the contraction of the veſſels and a conſequent diminution of the flux of an ulcer, or to its power of rendering acrid diſcharges mild by dilution; as it is not poſſible to apply effectually the aqua vegeto mineralis more than once or twice to a part, without a removal of the bandages, as the calx of the lead is left in the interſtices of the linen or flannel that is employed when the water evaporates, ſo as to render

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it impervious: and thus that which when applied was an eaſy application, that readily tranſmitted any watery fluid to the part affected, and that was choſen on account of its ſoftneſs and the ſupport it afforded to the diſeaſed parts, becomes (if the roller be at all diſplaced) a hard ligature, in no reſpect calculated to produce any of thoſe beneficial effects that were expected from it as a bandage.(a) Many other advantages might be pointed

(a) It is ſcarcely poſſible for thoſe who waſh the bandages that have been wetted with the ſolution of lead, ever to render them perfectly clean, or free from the calx that is retained in their interſtices, and thus, an unhealthy atmoſphere, that has been occaſioned by the excretions that nature deſigned to throw off, is confined with the diſcharges by an impervious bandage.

pointed out, that ſufficiently eſtabliſh the preference due to pure water. I ſhall however obſerve only, that the one is a poiſon, which in the hands of unſkilful or careleſs perſons may do harm in various ways; that the conſequences of its abſorption would be in many inſtances dreadful(a)—and that the other, though ſo innocent, is capable of producing all the advantages that are obtained by the uſe of the former, in a more effectual manner, in conſequence of the eaſe with which it is conveyed to the parts without removing the bandages.

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(a) Particularly in thoſe caſes of colliquative Diarrhœa, that are occaſioned ſo often by the ſympathiſing of the ſtomach and inteſtines, with large and irritable wounds.

I ſhall now attempt to deſcribe the *manner* in which the principles above alluded to are applied. And as it muſt be perceived that there is little more in the materials recommended than Surgeons have been long in the habit of uſing, it muſt be alſo perceived that the difference in the effects produced muſt be in a great meaſure aſcribed to the *manner* in which thoſe materials are applied. Therefore, as the ſucceſs of the *means* very much depends upon the *mode of their application*, I ſhall be more particular in my deſcription of *them* than may perhaps to many appear neceſſary; but as I am convinced that almoſt every thing that can be wiſhed may be obtained in ſuch caſes, if the principles are kept in view, and a proper application

cation of the means perſevered in; I wiſh, by the fulneſs of my deſcription, to ſpare thoſe who may adopt the plan, the inconveniences and diſappointments that may be experienced, if the ſteadieſt attention does not direct their application.

The parts ſhould be firſt cleared of that hair that is ſometimes found in conſiderable quantities upon the legs, by means of a razor, that none of the diſcharges by being retained may become acrid and inflame the ſkin, and that the dreſſings may be removed with eaſe at each time of their renewal, which in ſome caſes, where the diſcharges are very profuſe, and the ulcers very irritable, may perhaps be neceſſary twice in the twenty-four

twenty-four hours; but which I have in almoſt every inſtance been only under the neceſſity of performing once in that ſpace of time.

The plaiſter ſhould be prepared for ſpreading by melting in an iron ladle over a ſlow fire four ounces of common plaiſter or diachylon, with half a drachm of yellow reſin; when melted it ſhould be ſtirred till it begins to cool; and then ſpread thinly upon ſlips of ſmooth porous callico of a convenient length and breadth, by ſweeping it quickly from the end that is held by the left hand of the perſon who ſpreads it, to the other end that muſt be held firmly by another perſon, with the common elaſtic

ſpatula

ſpatula that is uſed by apothecaries; the uneven edges muſt then be cut off, and the pieces ſo prepared cut into ſlips of from two to three inches in breadth, and of a length that will, after being paſſed round the limb, leave an end of about four inches.

The middle of the piece ſo prepared ſhould then be applied to the ſound part of the limb that is oppoſite to the inferior part of the ulcer, ſo that the lower edge of the plaiſter may be placed about an inch below the edge of the ſore, and the ends ſhould then be drawn over the ulcer with as much gradual extenſion as the patient can well bear; other ſlips ſhould be ſecured in the ſame way each above the other, until the whole

whole ſurface of the ſore and the limb are compleatly covered with the plaiſter at leaſt an inch above and below the diſeaſed part.

The whole of the affected parts ſhould then be defended with pieces of ſoft callico, three or four times doubled, and very evenly applied; and a callico bandage of about three inches in breadth, and four or five yards in length; or rather as much as will be ſufficient to ſupport the limb from the foot to the knee, ſhould be applied with as much firmneſs as can be borne by the patient; and as much evenneſs as can be obtained by the attention of the Surgeon, by paſſing it firſt round the leg at the ankle joint, then once or twice round the foot, and afterwards

up

up the limb till it reaches the knee, obſerving that each turn of the bandage ſhould have its lower edge ſo placed as to be about an inch above the lower edge of the fold next below.

The whole of the parts that are at all affected ſhould then be well moiſtened with cold ſpring water, poured from a large tea-pot; and it ſhould, if the parts be much inflamed, or the diſcharges either acrid or profuſe, be renewed as often as the heat of the parts may indicate, or perhaps at leaſt once in every hour.—The patient may then take what exerciſe he pleaſes, as I have been generally told by mine, that they have been eaſier when they have walked much; and have

have as generally found that their cures have not been retarded; but on the contrary moſt times accelerated by their exertions in that way. I do not attempt to aſſign any other than the preceding reaſons for a circumſtance ſo contradictory to the experience of almoſt all Surgeons. But I think it will be obvious, that cures that are obtained under ſuch treatment will be much more laſting than thoſe that are accompliſhed in any way where the patient is confined to his bed.

I have choſen to apply the means here recommended to thoſe caſes that have fallen under my care, at an early hour in the morning, that is, before the Oedema has

come on which ſo frequently attends ſuch caſes; firſt, with a view to reſtore the tone of the refluent veſſels, by ſupporting their ſides when in a *natural ſtate*, and ſecondly, with the expectation of being able to bring the divided edges nearer together, whilſt the parts are in *that ſituation*, and the ſkin relaxed, than it would be poſſible to do when the parts are diſtended by tumefaction.

I have alſo prefered the uſe of callico to linen, from much experience of its ſuperiority in very many reſpects: it does not ſubject the parts to that inconvenient and undue ſtricture that is experienced in the uſe of linen; it is more pervious, and conſequently prevents the formation of ſinuſſes which might be

be occaſioned by a compleat retention of the diſcharges, if accompanied with the preſſure ſo much recommended; it appears to poſſeſs more of the accommodating properties of the true ſkin, and by its elaſticity is well calculated to yield a little to muſcular action, whilſt it affords ſufficient ſupport to the parts; and laſtly, it is much more cheap, which, to a perſon who is in the daily habit of uſing ſo much as myſelf, is a conſideration of ſome conſequence.—I have before ſaid, that porous callico will be found moſt uſeful, and I prefer that which being ſmooth and free from inequalities, is to be bought at eleven pence or a ſhilling a yard, to that which is more expenſive and conſequently leſs pervious.

As a bandage too, I think it much preferable to either linen or flannel; it is more elaſtic, ſoft and accommodating, than the former, and beſides being leſs cumbrous and more cleanly than the latter, poſſeſſes the additional advantage of being a much better conductor of that morbid heat which ſo conſtantly affects inflamed parts, and which it is eſſential to remove.

Having thus endeavoured to explain the principles that directed my practice, and the manner of applying the materials that I have uſed, with, perhaps, too much minuteneſs, I ſhall now endeavour to reward the patience of the reader, with an account of ſeveral deplorable

deplorable diſeaſes, that were cured by the means recommended, after a compleat failure of all others.

CASE I.

HANNAH WEBB, aged 32, ſervant to Joſiah Hill, Eſq. of Bedminſter, applied to me by the deſire of her maſter, on the 24th of November, 1792, for the cure of two ulcers on the left leg. One ſituated on the outer and lower edge of the ſoleus muſcle was about two inches long, an inch wide, and very deep. The other ſituated a little below the external malleolus was an inch long, half an inch wide, and of a triangular form.—The edges of both were callous, the diſcharge

diſcharge thin, and the ſurrounding parts very much inflamed. She ſaid, that ſhe had ſuffered very much for upwards of two years, being obliged to walk and ſtand a great deal; that ſhe had been twelve months under the care of a gentleman in the neighbourhood, who, beſide great perſonal attention, gave her conſiderable quantities of alterative, and other medicines. That ſhe had alſo the occaſional aſſiſtance and advice of other gentlemen before ſhe made application to him: and it ſeemed by her account, that ſhe had tried every remedy, except abſolute reſt in bed (which was only occaſionally reſorted to) that could be ſuggeſted, without any advantage. The adheſive plaiſter ſpread on ſlips of callico were applied to the lower

ulcer, and ſecured by its adheſive property as well as the ſituation and ſhape of the ulcer would allow. The upper ulcer was treated in the ſame way, with ſlips of the ſame kind, drawn firmly round the limb, ſo as to bring the retracted edges nearer together; which was not difficult to accompliſh, as that wound was ſituated in a yielding part, and was alſo very deep. The parts were then defended with pieces of callico, and a bandage of the ſame kind, three yards in length, was applied ſpirally with ſome firmneſs round the limb. She was directed to keep it conſtantly well wetted with cold water poured from a tea-pot upon the parts, to live ſparingly, and to take what exerciſe ſhe pleaſed. At my next viſit, the 25th,

I was very much ſurprized at the change that had taken place in only twenty-four hours: the edges were much reduced, the diſcharge was much better, the inflammation much leſs, and ſhe ſaid that ſhe had experienced more eaſe than ſhe had known in the ſame ſpace of time for many preceding months. She was dreſſed every day in the ſame manner; and by the ninth of the following month, a period of only fifteen days, both wounds were perfectly cured.

The celerity of this cure may be aſcribed to the patient being of a ſpare form, and poſſeſſing much looſe ſkin upon her leg, which permitted the divided parts to be brought nearly into contact. Thus with no

other

other internal medicine than one aperient draught, which perhaps was unneceſſary, this perſon in only fifteen days was cured of a diſeaſe that had reſiſted the art of Surgery upwards of two years.

It may be neceſſary to remind the reader, that in all of theſe caſes a kind of *fulcrum* has been formed, by applying the middle part of the adheſive ſlip exactly oppoſite to the ulcer on the ſound part of the limb, to enable the *moving power* that is applied to bring the ſides of the ulcer nearer together when the ends of the plaiſter are drawn over the affected part.

CASE

CASE II.

MR. JAMES HARRIS, Shopman to Mr. Dowell, Iron-Merchant, applied to me by his Maſter's deſire, with ſeveral large and very irritable ulcers, on different parts of his leg, which from the knee was ſo diſeaſed by inflammation and ulceration, that I could have entertained no hope of being able to cure him by any of the common methods of treating ſuch diſeaſes.

He

He ſaid "that in the year 1783, being employed at a Tin-plate Manufactory, he had the misfortune to plunge his leg into a pot of boiling greaſe, and that on turning down the ſtocking, a great part of the ſkin and fleſh came off, that he was immediately placed under the care of a Surgeon of reputation, and continued with him nearly two years, at the end of which time, having a callous obſtinate ulcer of the ſize of the palm of the hand, he applied to another eminent Surgeon, and remained under his care ten months with little advantage; that he was under the care of no regular practitioner, but continued to try every thing that was recommended by his friends and neighbours for a year from that time; that he then got admiſſion into a hoſpital,

hoſpital, and after ten months was diſcharged nearly in the ſame ſtate that he was in when firſt admitted: he alſo ſaid, that afterwards he was attended by different practitioners without experiencing any relief."

At the time he applied to me, his caſe was in every reſpect one of the moſt hopeleſs I had ever ſeen. It had been occaſioned by the effects of *fire*, a cauſe that ever ſtamps the character of obſtinacy on wounds that are ſo occaſioned; it had been of more than nine years ſtanding; it had reſiſted the ſkill of many gentlemen that I knew to be experienced in the practice of ſurgery; very much of the common covering was deſtroyed, and what remained was ſo thickened by inflammation,

mation, that it would have been preſumption to hope that a cure could be obtained. But as I expected that relief might be afforded, I for ſome months unremittingly endeavoured to aſſiſt him by all the common methods I was acquainted with, except abſolute reſt in bed, without the leaſt advantage. The high degree of inflammation that conſtantly attended this diſeaſe, ſeemed to put the plan of the adheſive out of the queſtion, as I had not ever yet tried it in ſo deſperate a caſe; but after much loſs of time, and a complete failure of all the means that had been uſed to procure relief, the adheſive was applied, the parts ſupported by a callico bandage, and the whole leg, on account of its very inflamed and diſeaſed ſtate, kept conſtantly well wetted.

ted. His relief was immediate, his pain, which before was very great, ceaſed in a few days, and without the interruption of a day or the confinement of an hour, he gradually amended till the whole was ſkinned over, which happened in about four months after the new plan was adopted, and about nine after the time of his firſt application to me; during all which time he performed his part of the buſineſs of a retail ſhop in full trade.

The very large extent of ulcerated ſurface in this caſe, together with the nature of the patient's engagements, which often prevented his regular attendance, as well as the very diſeaſed condition of the parts that ſurrounded the ulcers, will ſufficiently account for the

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diſproportionate length of time that was employed in the accompliſhment of this cure, which though diſproportionate to the time that has been neceſſary to perform any other, yet ſcarcely amounted to half as many months as years had been before unavailingly employed in ſearch of relief.

CASE

CASE III.

WILLIAM PREEN, of Tetbury, in Glouceſterſhire, aged 49, applied to me the 25th of April 1794, with two large ulcers on the outſide of the left leg, near the middle of the peroneus longus muſcle; one about three inches in length, the other that was ſituated a little below, ſomewhat leſs than two inches, both were rather long than broad, and in ſo bad condition, that a ſtream of very thin offenſive diſcharge eſcaped, when I removed the dreſſing that was upon it. He appeared

very thin and emaciated, and gave the following account of himſelf:—that about the age of 18, he fell as he was ſliding upon ſome ice, on the outſide of his leg, that an abſceſs followed, which extended from his knee to his foot; that he became an in-patient to the Glouceſter Infirmary for it, and after remaining there ſomewhat more than a year, during which time a large exfoliation had been thrown off, he was diſmiſſed with a perfect cure; that after ſome years, in conſequence of an accident as he was at work in a gentleman's garden, the cicatrized part gave way, and that he could never afterwards get it healed, though he ſaid that he had received the aſſiſtance of ſeveral eminent practitioners in that part of the

the county, and had been under the conſtant care of ſome Surgeon the greateſt part of the preceding five years; he mentioned the names of ſome whoſe reputation I was no ſtranger to, and added, that having tried all the old methods, his laſt Surgeon had applied a new one, and had kept the parts conſtantly covered with rhubarb and other powders(a) with no better ſucceſs than thoſe who had preceded him; he ſubjoined alſo, that he had lived very freely and ſhould continue to do ſo, " that he could not eat, therefore would drink."

(a) According to a plan that has been recommended by Everard Home, Eſq.

He was dreſſed with ſlips of adheſive, and the leg was firmly ſupported with the callico bandage. In conſequence of the very irritable ſtate of the ſores, and the general inflammation of the limb, he was directed to keep the parts not only conſtantly wet, but alſo cold by the very frequent application of water poured from a large tea-pot upon the part; and after very ſtrict directions as to temperance, he was directed to call on me the next day; he did ſo, and the wounds in that ſhort period were manifeſtly improved; in a few days his ulcers became healthy ſores, his pain and every other inconvenient ſymptom left him, and by the twenty-fourth of the next month (May) he was perfectly cured; when he very candidly told me, " that I had cured him in deſpite of himſelf,

himſelf, that he had lodged at an Inn the whole time that he had been under my care, had drank freely every day, and had been intoxicated every night."

Theſe ſores were ſituated in yielding parts, and to that circumſtance may be aſcribed a cure ſo ſpeedy, under circumſtances ſo diſadvantageous. Had this perſon applied to me before I diſcovered the advantages of the method that I now uſe, it will be perceived that with his licentious habits, it would not have been in my power even to have relieved him by any of the means that were then in uſe; but it ſeems that the proceſſes of re-union and ſkinning, which were both neceſſary in this caſe, could not be prevented

by the irregularities of the patient, when the retracted ſkin was brought forward, and the other means applied which have been ſo often recommended.

CASE

CASE IV.

JANE POWELL, aged 27, a poor woman in the work-houſe of the Out-Pariſh of St. Philip and Jacob, was taken under my care on the 14th of Auguſt, 1796. She had an ulcer on the outſide of the left leg, partly ſituated on the peroneus longus muſcle, and partly upon the lower external edge of the ſoleus; it was two inches and a half in length, two inches in breadth, and very deep, the diſcharge was thin and profuſe, the inflammation conſiderable, and ſhe deſcribed herſelf

as ſuffering ſo much pain from it as to occaſion her ſitting up and giving way to tears ſome hours every night. She was dreſſed as uſual with the adheſive, and the parts kept conſtantly cool and moiſt, by means of water poured very frequently upon them; in leſs than five weeks ſhe was cured, with little more remaining cicatrix than would have occurred if the parts had been recently divided and again united by the firſt intention. This diſeaſe had been nearly in the ſame ſtate fifteen months. She had been in a Hoſpital eighteen weeks, and had been diſcharged from thence without relief; her cure was now accompliſhed without pain or confinement in the before mentioned time.

CASE V.

JAMES GANE, aged 63, a poor man in the work-houſe of the Out-Pariſh of St. Philip and Jacob, had two ulcers on the outſide of the right leg, exactly upon the ankle-joint. One the ſize of a ſhilling, the other ſomewhat leſs; he had alſo two larger ulcers almoſt oppoſite to the others, on the inſide of the ſame leg; the ſurfaces of theſe ſores were on a level with the ſurrounding ſkin, the parts were much ſwollen and inflamed, the joint had nearly loſt its mobility,

bility, and the limb appeared as if the greateſt part of it had been in an ulcerated ſtate at ſome former period. He ſaid that the diſeaſe had been occaſioned by the bite of a moſchetto fly, at the ſiege of the Havannah, in the year 1762; that he had been under the care of many Surgeons, and had been three times in Hoſpitals, but that he never could obtain a ſerviceable cure, though it had been ſeveral times ſkinned over; before I put him upon the new plan, I tried every other remedy that I was acquainted with, not excepting abſolute reſt in bed upwards of ſix months, without advancing in any degree towards a cure.

On the 14th of Auguſt, 1796, he was firſt dreſſed with the adheſive, and the parts were

directed to be frequently wetted with cold water, his relief was as ſudden as had been experienced in any of the preceding inſtances, and in five weeks, he was perfectly cured.

The ſurface of this man's ſores being upon a level with the ſurrounding ſkin, and the limb much hardened by inflammation, prevented my being able to cover the denuded parts with it; nevertheleſs, the ſkinning proceſs was compleated, and his cure ſatisfactorily accompliſhed in the period above mentioned. And thus four ill-conditioned ulcers upon a leg that had been diſeaſed upwards of thirty-four years, were cured for this poor man (whoſe age was very unfavourable) in the ſhort ſpace of five weeks. On account of his appearing much older than he

really was, and his being much emaciated, I did not think proper to eſtabliſh any ſubſtituted diſcharge. Yet at this day, Jan. 27, his leg continues perfectly ſound, and he is in much better health than he was before his cure was accompliſhed.

CASE

CASE VI.

JOHN PONTIN, of the pariſh of St. George, in the county of Glouceſter, aged 55, was taken under my care on the 25th October, 1796.

About 18 years ſince, as he was riding a ſpirited horſe which he was unable to manage, from the circumſtance of having loſt one of his arms ſome years before, by the burſting of a gun, it happened that as the horſe paſſed ſwiftly by the ſide of a cart, the calf of his leg

leg was caught by the hook of the cart, and the whole of it torn away. He was immediately taken to the Briſtol Infirmary, and placed under the care of a gentleman whoſe patients I dreſſed at that time, being then an apprentice at the houſe. A dangerous mortification ſucceeded to the injury, and it was not without difficulty that his life was preſerved. He remained in the hoſpital 37 weeks, and was confined to his bed 27 : at the expiration of the former period, he was diſmiſſed, with a large ulcer, on account of ſome irregularity in his conduct. It continued to embitter his life from that time to the day he was taken under my care. I then meaſured it ; it was ſix inches and a half in length, and five and a half in breadth ; it occupied the part

that

that had formerly been covered by the gaſtrocnemius externus muſcle; the edges were nearly a quarter of an inch thick; the diſcharge which was very thin and offenſive, fell in a large ſtream when I removed his dreſſings; the contraction of the tendons was ſo great, that he could only touch the ground with the points of his toes, and the limb was ſo generally diſeaſed and hardened by inflammation, as to make it apparent that any attempts to bring forward the ſkin muſt prove abortive. His pain was ſo diſtreſſing, that he could neither eat nor ſleep; and his health was ſo much affected, that he appeared very much emaciated. I did not however, under all theſe diſcouraging circumſtances, deſpair of being able to cure him, as my almoſt uninterrupted

interrupted ſucceſs had given me the greateſt confidence in the plan that I have deſcribed. On that day the adheſive ſlips were applied, and rather forcible endeavours made to bring the ſides of the ulcer nearer together by drawing the ends of the ſlips over it, and ſecuring them when ſo drawn. The limb was then defended with ſoft callico, and firmly ſupported with a bandage of the ſame; and the patient directed to keep it conſtantly cool by means of water. His relief was as ſpeedy and remarkable, as had been obſerved in any inſtance; in three or four days the callous edges were levelled with the ſurface of the ulcer; the diſcharge was rendered inoffenſive, and healthy as that of an iſſue; and the ſkinning proceſs commenced: from

that

that time to the preſent, his cure has uniformly advanced, and in two or three weeks his wound, which is only an inch and a half long, and about half an inch wide, will I believe, be perfectly healed.

I have the ſatisfaction to add, that the limb is become almoſt as ſoft and healthy as it ever was; and that in conſequence of the daily application of warm animal oil to the contracted muſcles and tendons, he is now enabled to tread much more plainly upon his foot, and to walk ſome miles every day with eaſe and convenience.

Does not the hiſtory of this dreadful diſeaſe afford reaſon to hope that few will

hereafter be found that may not be eaſily cured by a proper application of theſe means?

I have choſen to record only ſix caſes, though the practice has been ſucceſsfully applied to more than thirty that are not brought forward; many of which were as remarkable as thoſe that have been related. Nothing further can be wanting to prove the advantages of the plan; therefore a greater number might appear oſtentatious, or only ſerve to gratify my own feelings. For theſe reaſons I have declined to inſert more, and will only add, that in *fair caſes* I doubt whether any diſappointments will in future be experienced. As the few

which

which I have not been able to cure by theſe means (paradoxical as it may ſeem) have rather ſerved to convince me, that where the dreſſings can be applied in *the way* that has been aſſerted to be neceſſary, compleat ſucceſs may be generally expected; it may not be amiſs to add, that the only unſucceſsful caſe I at preſent recollect, was an ulcer about an inch long, and leſs than half an inch wide, ſo ſituated beneath the outer ankle, that it was impoſſible by any contrivance to ſecure the adheſive ſlips, ſo as to aſſiſt the divided edges of the ulcer in their advances towards each other. The long diameter of the ſore, was in a line with the outer edge of the foot, and its ſhort diameter lay between the protuberance of the ankle joint, and the edge of the ſole;

ſo that it was not poſſible to contract the length of the ulcer by ſlips applied to the ſide of the foot, nor to diminiſh its breadth, on account of the projection of the joint;—and thus this caſe, which in every other reſpect appeared more likely to be cured than moſt of thoſe whereon the plan had been tried, could not (for the reaſons above ſtated) be relieved by merely covering the ulcer with the ſame kind of dreſſing, though it was regularly applied many weeks.

It has been thought neceſſary to direct thoſe perſons who have been cured, to keep the limb carefully ſupported by bandage ſome months after the cures have been accompliſhed, or until the part has afforded proof that

that the returning veſſels have recovered their tone; by diſplaying no tendency to ſwell.

Caſes I. III. and IV. prove, that old deep ulcers, ſituated in yielding parts, may by theſe means have their ſides brought into contact, and be cured almoſt as readily by the *ſecond intention* as recent wounds; with very little remaining ſcar, and conſequently with a diminiſhed probability of a relapſe.

Caſes II. V. and VI. go much farther than the preceding; they eſtabliſh the ſuperiority of this method over every other that has been yet known; and they prove that ſpeedy cures may be obtained in the worſt, and oldeſt

ulcers, of the pooreſt people, even where the true ſkin cannot be brought forwards ſo as in any degree to cover the denuded parts.

The advantages that belong to the true ſkin can never be communicated to that which is formed in its ſtead, yet as the caſes of this kind that have been cured by theſe means, have moſtly remained ſound, and thoſe that have yielded have not ulcerated in that rapid way that new-formed parts are apt to do, but have been healed again almoſt immediately upon the re-application of the ſame means; I am convinced that the danger of a relapſe will be leſſened even in *theſe caſes*; as the *vaſcularity* of the new-formed parts, upon *which* the ulcerative proceſs much depends, muſt be leſs in caſes that are treated in this

manner, than it is in parts that have been healed by the common methods of cure.

It was obſerved in the beginning of this tract, that I was induced to apply the adheſive application by the hope of being able to bring the retracted edges of the divided ſkin nearer together, and by the expectation of ſome other of thoſe advantages that have been found to follow its uſe; but it muſt be perceived in the caſes of *Harris*, *Gane*, and *Pontin*, whoſe ulcers were ſo extenſive, and whoſe limbs were ſo hardened by the effects of long-continued inflammation, that no care or ſkill could have ever brought the diſeaſed ſkin that remained on their limbs, to cover wounds ſo extenſive; nevertheleſs it appears

that their cures were accompliſhed almoſt as ſoon in proportion to the extent of their ulcers, as any of the others that are related, whoſe diſeaſes were ſituated in yielding parts, and who for that reaſon ſeemed ſo much more likely to be relieved by theſe means. ——To what circumſtance then are we to aſcribe theſe remarkable facts? they cannot ſurely be referred to the ingredients of the adheſive plaiſter, to the effects of bandage, to the exerciſe that was uſed, nor to any conſtitutional interference, as the *ſame* effects have always followed the application of theſe *principles*, whether the patients have been young or old, robuſt or emaciated, temperate or diſorderly; whilſt ointments, compoſed of the ſame ingredients as the ad-

adhesive plaister, bandages, exercise, and all the means, except the *endeavour to bring the divided parts nearer together*, to which it may be supposed the cures can be attributed, had been tried in every way by different practitioners in most of these cases; and many times by myself, without any such advantages being obtained. To answer this question, it will be necessary to take a view of the process of nature, in accomplishing the cure of divided parts, as described by that accurate observer of the phenomena of animal life, whose opinions I have so often quoted; as well as the appearances that have been observed by others, in the dissection of parts that had been divided, and that were afterwards

wards healed: (a) in ſo doing, I think it will be diſcovered that a great part of the advantages that have been obtained by this practice, and that may in future be expected to follow its adoption, will be found to depend upon an imitation of nature's proceſs, in that mechanical

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(a) Thus after the cure of a ſtump, every veſſel even the largeſt, is almoſt entirely obliterated for a conſiderable extent; at leaſt, nothing is found to remain of them, but the thin membranes that compoſed their coats, ſhrunk into very ſmall inconſiderable cords; the fibres of the different muſcles are, in the ſame manner, greatly diminiſhed; and the cellular ſubſtance ſeems frequently to be almoſt entirely annihilated. Several opportunities have occurred for diſſecting the ſtumps of patients after death, and the appearances were uniformly as above related.

See Mr. Bell's Treatiſe on the Theory and Management of Ulcers. p. 162.

mechanical contraction of the granulations, which is a conſequence of the application of the adheſive, in *the way* that has been recommended.

Mr. J. Hunter ſays in page 477, and the following, of his Treatiſe on the Blood, &c. " That granulations, and this new-formed ſubſtance, are an accretion of animal matter upon the wounded or expoſed ſurface: they are formed by an exudation of the coagulating lymph from the veſſels, into which new ſubſtance, both the old veſſels very probably extend, and alſo entirely new ones form; ſo that the granulations come to be very vaſcular, and indeed they are more ſo than almoſt any other animal ſubſtance."——

" Granu-

" Granulations have the diſpoſition to unite with one another, when ſound or healthy; the great intention of which is, to produce the union of parts, ſomewhat ſimilar to that by the firſt intention, or the adheſive inflammation, although poſſibly not by the ſame means. The granulations having a diſpoſition to unite with each other upon coming into contact, without the appearance of any intermediate animal ſubſtance, perhaps is in the following manner: when two ſound granulations approach together, the mouths of the ſecreting veſſels of the one, coming to oppoſe the mouths of ſimilar veſſels of the other, they are ſtimulated into action, which is mutual; ſo that a kind of ſympathetic attraction takes place, and as they are ſolids,

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the attraction of coheſion is eſtabliſhed between them; this has been termed inoſculation. The veſſels thus joined, are altered from ſecreting to circulating; or it may be in this way, viz. the circulatory veſſels come to open upon the ſurface, and there unite with one another, and the two become one ſubſtance; or it may be aſked, do they throw out coagulating lymph when they come into contact, and have a diſpoſition to heal? And does this become vaſcular, in which the veſſels may inoſculate, ſimilar to union by the firſt or ſecond intention?"

"*Gramulations are not only weaker in performing the natural or common functions of the parts to which they belong, but they would appear often to be formed, with only ſtated periods of life, and*

and thoſe much ſhorter than the life of the part on which they are formed. This is moſt remarkable in the extremities; but where they are capable of going through all their operations, as cicatrization, their life then ſeems to be not ſo limited: they are probably then acquiring new life or longevity every day. But while in a ſtate of granulation, we find theſe often dying without any viſible cauſe: thus, a perſon ſhall have a ſore upon the leg, which ſhall granulate readily; the granulations ſhall appear healthy, the ſkin ſhall be forming round the edges, and all ſhall be promiſing well, when all at once the granulations ſhall become livid, loſe their life, and immediately ſlough off; or, in ſome caſes, ulceration ſhall in part take place, and both together ſhall deſtroy the granulations:

and

and probably where ulceration wholly takes place, it may be owing to the ſame cauſe. New granulations ſhall immediately riſe as before, and go through the ſame proceſs; this ſhall happen three or four times in the SAME *perſon, and probably for ever, if ſome alteration in the nature of the parts be not produced. This circumſtance of the difference in longevity of granulations in different people, is ſomewhat ſimilar to the difference in longevity of different animals.*

In caſes of ſhort-lived granulations, I have tried various modes of treatment, both local and conſtitutional, to render the life of the granulations longer, but without ſucceſs."

" Imme-

" Immediately upon the formation of the granulations, cicatrization would appear to be in view. The parts which had receded, in conſequence of a breach being made into them, by their natural elaſticity, and probably by muſcular contraction, now begin to be brought together by this new ſubſtance; and it being endowed with ſuch properties, they ſoon begin to contract, which is a ſign that cicatrization is to follow. The contraction takes place in every point, but principally from edge to edge, which brings the circumference of the ſore towards the centre; ſo that the ſore becomes ſmaller and ſmaller, although there is little or no new ſkin formed.

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The contracting tendency is in ſome degree proportioned to the general healing diſpoſition of the ſore, and the looſeneſs of the parts on which they are formed; for when it has not a tendency to ſkin, the granulations do not ſo readily contract, and therefore *contracting and ſkinning are probably effects of one cauſe.* The granulations too being formed upon a pretty fixed ſurface, which is a conſequence of inflammation, are in ſome degree retarded in their contraction from this cauſe; but probably this does not act ſo much upon a mechanical principle as we at firſt might imagine; for ſuch a ſtate of parts in ſome degree leſſens the diſpoſition for this proceſs, but this ſtate is every day altering, and in proportion as the tumefaction

ſubſides. Granulations are alſo retarded in their contraction from a mechanical cauſe, when they are formed on parts naturally fixed, ſuch as bone; for inſtance, on the ſkull, on the bone etc. of the ſhin, for there the granulations cannot greatly contract.

In caſes where there has been a loſs of ſubſtance making a hollow ſore, and the contraction has begun and advanced pretty far, before the granulations have had time to riſe as high as the ſkin, in ſuch caſes the edges of the ſkin are generally drawn down and tucked in by it, in the hollow direction of the ſurface of the ſore.

If it is a cavity, or abſceſs which is granulating, with only a ſmall opening, as in many that have not been freely opened, the whole circumference contracts like the bladder of urine, till little or no cavity is left; and if any cavity is remaining, when they cannot contract any further, they unite with the oppoſite granulations, in the manner deſcribed.

This contraction in the granulations, continues till the whole is healed, or ſkinned over; but their greateſt power is at the beginning, at leaſt their greateſt effect is at the beginning: one cauſe of which is, that the reſiſtance to their contraction in the ſurrounding parts is then leaſt.

The contractile power can be assisted by art, which is a further proof that there is a resistance to be overcome.

The art generally made use of, is that of bandages, which tend to push, draw, or keep the skin near to the sore which is healing; but this assistanee need not be given, or is at least not so necessary, till the granulations are formed and the contractile power has taken place: however, it may not be amiss to practise it from the beginning, as by bringing the parts near to their natural position, the adhesive inflammation will fix them there. They will not therefore recede so much afterwards, and there will be less necessity for the contractile powers of the granulations.

Beſides the contractile powers of the granulations, there is alſo a ſimilar power in the ſurrounding edge of the cicatrizing ſkin, which aſſiſts the contraction of granulations, and is generally more conſiderable than that of the granulations themſelves, drawing the mouth of the wound together like a purſe; this is frequently ſo great, as to occaſion the ſkin to graſp the granulations which riſe above the ſurface, and is very viſible in ſugar loaf ſtumps, where the projection of the ſore is to be conſidered as above the level of the ſkin.

The uſe ariſing from the contraction of the granulations are various. It facilitates the healing of a ſore, as there are two operations

going on at the ſame time, viz. contraction and ſkinning.

It avoids the formation of much new ſkin, an effect very evident in all ſores which are healed, eſpecially in ſound parts.

In amputation of a thick thigh (which is naturally ſeven, eight, or more inches diameter before the operation,) the ſurface of the ſore is of the ſame diameter; for the receding of the ſkin here does not increaſe its ſurface, as it does in a cut on a plane; yet in this caſe, the cicatrix ſhall be no broader than a crown piece. This can be effected by the contractile power of the granulations, for it is bringing the ſkin within its natural bounds.

bounds. The advantage ariſing from this is very evident; for it is with the ſkin, as it is with all other parts of the body, viz. that thoſe parts which were originally formed are much fitter for the purpoſes of life, than thoſe that are newly formed, and not nearly ſo liable to ulceration.

After the whole is ſkinned, we find that the ſubſtance, which is the remains of the granulations on which the new ſkin is formed, ſtill continues to contract, till hardly any thing more is left than what the new ſkin ſtands upon. This is a very ſmall part, in compariſon with the firſt formed granulations, and it in time loſes moſt of its apparent veſſels, becomes white and ligamentous. For

we may obſerve that all new healed ſores are redder than the common ſkin, but in time they become much whiter. As the granulations contract, the ſurrounding old ſkin is ſtretched to cover the part which had been deprived of ſkin, and this is at firſt little more than bringing the ſkin to the old poſition, which had receded when the breach was firſt made; but afterwards it becomes conſiderably more, ſo as to ſtretch or oblige the old skin to elongate."

If any thing more than the preceding quotations were neceſſary to prove that nature accompliſhes the cure of ulcerated wounds by a contraction of the granulations, and an obliteration of the extreme veſſels—the *ſucceſs*

of the means that have been recommended in this Treatiſe, I believe, would furniſh the evidence, as they only differ from the common methods of cure, in as much as they tend to occaſion a contraction of the granulations, an obliteration of the veſſels, and to enable us to overcome the resistance which is oppoſed to the proceſs of ſkinning. The ſame effects are produced in this method by mechanical means, that nature is conſtantly endeavouring to produce in her operations, and ſpeedy cures have been the general conſequence of treating diſeaſes in this manner, whilſt failures have as generally occurred where the ſame kind of applications have been uſed in a different manner. Does it not then appear that the advantages of this practice conſiſt in our being

being able to bring about in a ſhorter ſpace of time the ſame effects, that the efforts of nature, when unaſſiſted by theſe means, would have imperfectly accompliſhed in a much longer period, or have failed to perform in any time? And does not the ſpeedy contraction of the granulations, and the ſkinning, that was occaſioned by endeavouring to bring the ſides of the ulcers nearer each other, in the caſes that have been deſcribed, ſufficiently account for the circumſtance of my having never loſt any of the ground that had been gained by this method of treating theſe diſeaſes? The granulations having poſſeſſed in every inſtance, that has fallen under my obſervation, ſufficient "longevity" to enable them to complete

complete the operations of contracting, ſkinning, and conſequenly curing the diſeaſe, before the natural period of their decay, when they have been ſo aſſiſted; and thus *it appears*, that ſkinning is a conſequence of the contraction of the granulations, and that both are " effects of one cauſe."

Every candid practitioner, that has ſeen many of theſe diſeaſes, muſt ſubſcribe to the truth of thoſe beautiful and impreſſive obſervations in the foregoing quotations, that reſpect the longevity of granulations in old ulcers of the extremities. They will alſo, I believe, be pleaſed with the ingenuous confeſſion that occurs immediately after, of a want of ſucceſs in the endeavours that were made

made to prolong their life.——Will it be deemed arrogant, if, with the experience of near forty ſucceſsful caſes, I venture to ſay, that cures may be generally obtained by this method of aſſiſting them in the completion of their operations, (in thoſe caſes where the retracted ſkin cannot be brought forward,) without its being neceſſary to increaſe the period of their duration? As the ſkinning proceſs, in caſes that have been ſo treated, has been always accompliſhed before the time of their decay.

My partiality for a mode of practice that I believe myſelf the inventor of, in theſe diſeaſes, and that, I may without vanity ſay, has enabled me to do much good, induced me to avail myſelf of the ſupport that I think it will

receive from the diſcoveries of the philoſopher, whoſe laſt work furniſhed me with the preceding extracts; and when his deſcription of nature's proceſs in curing ulcers, and the *mode of treatment* that I have recommended, is compared with each other, and with the uniform effects that have ſucceeded to *that mode of treatment*; will it be ſuppoſed that my ſolicitude to connect this improvement with his name has miſled my judgment? or rather, will it be eaſy to account in a more rational, or ſatisfactory manner for the effects that have been ſo conſtantly obſerved to follow a ſimilar cauſe to that, which he ſays, nature employs to accompliſh her cures? If it were neceſſary to add more to render it probable that my

ſucceſſes

ſucceſſes depended upon the aſſigned cauſes, it would be effectually done by a review of almoſt every line that has been written by him upon the ſubject in the work alluded to; but as I conſider the coincidence between his opinions and this practice to be ſelf-evident, I ſhall only add, that, they mutually tend to ſupport and illuſtrate each other.

It will ſcarcely be expected, that I ſhould think it neceſſary to notice the exploded doctrine of humours in the preſent day; but as it has been remarked "that thoſe notions which have been long rejected by medical men, continue current with others a conſiderable time afterwards, to the great

detriment

detriment of themſelves, and the vexation of thoſe who are called in to cure them when they are ill;" and as it is probable that theſe ſheets may be read by perſons, not of the profeſſion, who may labour under ſuch diſeaſes, and who may ſuppoſe that the diſcharges of ulcers are kept up by conſtitutional affections, or bad humours, it may render this Eſſay more uſeful, if I ſay a few words on the fallacy of ſuch opinions; though the ſubject has been already ſo ably diſcuſſed, and the error ſo compleatly expoſed, by Mr. Bell, in his treatiſe on the theory and management of ulcers, that little remains to be added to what has been eſtabliſhed by him in the work alluded to.

It is now known that the diſcharges of ulcers are nothing more than certain parts of the blood ſomewhat altered in their properties, by the action of the veſſels that ſecrete them. It is alſo known, that no analyſis of the blood ever detected the ſmalleſt particle of thoſe acrid fluids that are ſometimes afforded by ulcers. And when it is conſidered that a wound furniſhing the healthieſt matter, may be made to produce the moſt acrid by a ſtimulating application; and that the acrid diſcharge may be again rendered healthy, by mild applications, in a very few hours, it will be perceived that the nature of the diſcharge muſt ſolely depend on the action of the ſecreting veſſels.

The powers of thoſe veſſels are ſo aſtoniſhingly diverſified, as to enable them to produce not only the different fluids that are neceſſary in the animal economy, the diſcharges of wounds, &c. but they are alſo capable of altering their natural actions, and producing even horn, hair, wool, and many other ſubſtances, where no human ſagacity could have previouſly ſuſpected their exiſtence.(a)

Dr. Cullen ſays, " that the action of the veſſels has a conſiderable ſhare in determining both the quantity, and quality of the ſecreted fluid, and that both are very little affected by

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(a.) See a communication in the 81ſt. vol. of the Philoſophical Tranſactions, by Everard Home Eſq. F.R.S.

the general ſtate of the circulation, or by the different conditions of the maſs of blood."(a) Mr. Bell ſays, " that very little conſideration indeed, will make it appear that no ſuch kind of matter as that which is frequently obſerved to flow from ulcers, ever ſubſiſted in the blood; and that it is not eaſy to ſuppoſe life to continue in a frame ſo delicate as the human, with its veſſels, which are ſo tender and irritable, filled with any ſort of fluid, in its nature much more acrid, than what in general, the blood in a ſtate of health is obſerved to be."(b)

And

(a). See Dr. Cullen's Inſtitutions of Medicine p. 221.

(b). See Mr. Bell's Treatiſe on the Theory and Management of Ulcers. p. 139.

And it is now the opinion of the moſt enlightened practitioners, that the evils which have been ſometimes obſerved to follow the ſuppreſſion of an accuſtomed evacuation, depend ſolely upon "the returning of a portion of fluids into the circulation, that the animal economy had been in the habit of making a proviſion for." Does it not then appear, that drains from ſetons or iſſues, in convenient ſituations, may at all times be rendered agreeable, as well as adequate ſubſtitutes, for the diſcharges that are afforded by *ulcers*, ſituated either upon tendinous parts, in the vicinity of joints, or upon places not ſo ſuſceptible of pain, and inflammation, but, that may be liable in *their* progreſs to injure the conſtitution, or endanger the lives of the perſons who are

unfortunately ſubject to them? And does it not ſeem to be a duty almoſt equal to that of ſelf-preſervation, to endeavour to obtain cures for diſeaſes, that in their mildeſt forms are diſtreſſing, and that in their advanced ſtages, are frequently attended with danger?

Perhaps enough has been ſaid to convince readers, who are not of the medical profeſſion, that the doctrine of humours has been rejected in conſequence of the advancement of natural knowledge, and that the opinions which have been adopted in its ſtead, explain more rationally, as well as more ſatisfactorily, thoſe phenomena which were ſuppoſed to depend upon that cauſe. For ſuch perſons, and ſuch only, theſe obſervations are inſerted, with the

the hope of preventing, or leſſening, the oppoſition which is frequently made by them, to the removal of one of the greateſt inconveniences that can be experienced, upon the groundleſs ſuppoſition that an ulcer is an outlet for the morbid materials of the body: I hope they will alſo remove from the minds of the moſt timid, the objections that may be made againſt curing ſuch diſeaſes; as they prove that all the ill conſequences that can follow the ſuppreſſion of accuſtomed diſcharges, may be prevented by the eſtabliſhment of adequate drains, in better ſituations.

Much experience enables me to ſay more; and indeed to aſſert that many of the oldeſt ulcers have been cured without a relapſe, or

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any ſucceeding conſtitutional diſeaſe, though unaſſiſted by ſubſtituted drains.

It has happened, that many of the patients have been unable, from the nature of their occupations, to attend to the proper management of iſſues, and have allowed them to cloſe, ſoon after their inſertion; nevertheleſs, I have obſerved that their cures have been as laſting as thoſe have been whoſe iſſues were continued, and that they have remained in every inſtance, as free from any conſtitutional indiſpoſition. Indeed, if the cures that were obtained by theſe means, had no better ſecurity againſt relapſes, than the prevention of repletion, I ſhould entertain little hope of their permanence.

It has been obſerved, that moſt of thoſe perſons upon whom this plan has been tried, have been of the claſs of labouring poor. It may from thence be inferred, that their ſcanty diet, or their daily labour, may have prevented the bad conſequences, that in other circumſtances might have followed the ſuppreſſion of their diſcharges. But I muſt obſerve, that though the greater number were of this deſcription, many that received perfect cures of *old ulcers*, without experiencing any diſagreeable effects, and that now remain ſound, were very differently circumſtanced.

I may inſtance ſome of the caſes that have been deſcribed, as all that are now in this part of the world, I believe, continue ſound and perfectly

perfectly healthy; though no artificial diſcharges were eſtabliſhed for either of them. Does it not then appear probable, that nature poſſeſſes the power to prevent that increaſe, or improper determination of the fluids, which has been ſo much dreaded, and which, if it occurred, might endanger?

I merely offer the ſuggeſtions that ariſe out of the facts which have been forced upon my obſervation, by the peculiar circumſtances of thoſe people, who have been cured, without ſubſtituted drains, of long continued ulcers, without experiencing the inconveniences that might have been expected. I do not aſſert that it will at all times be ſafe to ſuppreſs old diſcharges, without the eſtabliſhment of new

ones,

ones, but as I think uſeful inferences may be drawn from what has occurred in this way, it would be improper to conceal that which has really happened, though by publiſhing it, I may appear to favour an opinion that contradicts the moſt reſpectable authorities. I venture only to ſay, that I believe the *indiſcriminate* uſe of drains to be improper, and that there may be caſes, where the patients, from the nature of their occupations, their neceſſitous ſituation, or their time of life, cannot be likely to ſuffer from repletion, and conſequently will not ſtand in need of drains that may prove troubleſome, and perhaps diſtreſſing.

In *different caſes*, may not an attention to regimen, with the aſſiſtance of opening medi-

cines, or the occaſional evacuation of a ſmall quantity of blood, be ſafely ſubſtituted for an artificial drain? which, though generally innocent, and frequently uſeful, is conſidered by ſome people to be equally objectionable with the diſeaſe whoſe relapſe it is deſigned to prevent.

Thus, after ſome years experience of a practice that has very ſeldom diſappointed me, though I have ſought for the moſt deſperate diſeaſes among the poor, in Workhouſes, and other ſituations, where ſuch caſes were likely to be found, I have ventured to publiſh an account of the means whereby my ſucceſſes have been obtained; and

and although ſome warmth of expreſſion may be diſcovered in my deſcription of *that*, which has rewarded me, for all my labour, with a rich harveſt of ſucceſs; and although it may perhaps be diſcovered, that the reaſoning is ſometimes defective, and the ſtyle every where improveable, I have ſo full an aſſurance of the utility of the practice I have deſcribed, that I ſhould not deſpair of its procuring a welcome reception for a publication that had been produced with leſs leiſure, and conſequently greater diſadvantage, than even this has been.

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ERRORS.

Page	Line	
7,	9,	for *those that*, read *those who*.
12,	4,	omit "*ſize of the*"
28,		Firſt line in the Note, read, "its principal ingredient *lead*."
28,		In the Note, read, "Dr. Ingenhouſz."
35,	13,	for *them*, read *it*.
38,	6,	inſtead of *about four inches*, read *about four or ſix inches*.
50,	11,	place commas after the words *power*, and *applied*.

NOTE.

I am ſorry to obſerve, that the prejudices of ſome of my patients, have made it neceſſary either to *deceive* them, or *relinquiſh the opportunity of compleating their cures*. I have choſen the former; and have diſguiſed the *Water* with a few drops of the *compound Tincture of Lavender*: it has then always happened, that the "RED LOTION" has been a "FINE MEDICINE," though the "*cold water would have certainly* BACKENED *the humour, or occaſioned their death!*"

